**Gender Detection using Machine Learning Techniques and Delaunay Triangulation**

**Abstract**

Data mining today is being used widely in diverse areas. For example: fraudulent systems, recommender systems, disease prediction, and numerous other applications. One such application is exploited in this article. This paper presents an approach to detect gender of a person through frontal facial image, using techniques of data mining and Delaunay triangulation. Gender prediction can prove to be a very useful technique in HCI (Human Computer Interaction) Systems. Classification, being a very power technique in data mining to group categorical data, is used here to classify a gender as either male, or female. Various classification algorithms such as Functional Trees, AdaBoost, J48, and few others are used to gauge the maximum accuracy. The model used in this paper is robust and attains accuracy level of 93.8283% along with relative scale invariance. Details of the prediction model and results are reported herein.

**General Terms** Data mining, classification algorithms, WEKA tool, gender detection, Machine learning

**Keywords** Functional Trees, J48, Naïve Bayes, Machine Learning, Gender Classification, WEKA, Machine learning